CURRENT LITERATURE.

BOOK REVIEWS.

Missouri Botanical Garden.[1]

THE ANNUAL REPORTS from this garden have come to be regarded as among the most important contributions to American botany, and the one before us is worthy of its predecessors. The three scientific papers are as follows:

1. *Juglandaceæ of the United States*, by WILLIAM TRELEASE. Since 1893 Dr. Trelease has been preparing a synoptical revision of this group, its publication being delayed from time to time on account of the necessity of additional material. Now that the family has appeared in Sargent's "Silva," Dr. Trelease has thought best not to publish the entire manuscript, and has presented in the paper before us "merely such a tabulation of the fruit, twig, bark and bud characters as it is thought will be helpful in field studies." It is certain that these so-called "winter characters" will be extremely useful, but we wish that Dr. Trelease had given us the benefit of his complete revision. It seems that most of the species are more readily recognized in their winter condition than during the period of flowering or the early summer season. The revision contains our ten hickories and four walnuts, with notes on certain hybrid forms, which are very helpful in explaining certain puzzling forms, which have long troubled botanists. The twenty-five excellent plates, many of them from remarkably clear photographs, thoroughly illustrate habit, bark, buds, etc., and there would seem to be little excuse left for not recognizing our species.

2. *A Study of the Agaves of the United States*, by A. ISABEL MULFORD. The exceptional facilities at the Missouri Botanical Garden for the study of this interesting and difficult genus are well known, and Miss Mulford seems to have availed herself of them fully. The paper is a clear and full presentation of her results, which the thirty-eight plates make still more valuable. A general account of the genus and of its economic uses, which are numerous, prefaces the synoptical presentation of the species. The subgeneric divisions based upon differences in the inflorescence, recognized by Dr. Engelmann, are followed, but Baker's substantive names, *Manfreda*, *Littæa* and *Euagave*, are applied to them. The specific limitations are not distinct, as is to be expected in such a group, and absolute precision in definition is not to be looked for. About twenty species and varieties are presented, three of which are proposed as new.

[1]Missouri Botanical Garden. Seventh annual report. 8vo. pp. 210, pl. 67. St. Louis, Mo. 1896.

3. *The ligulate Wolffias of the United States*, by CHARLES HENRY THOMPSON. Under this title reference is made to the subgenus *Wolffiella*, which the author is inclined to believe is a distinct genus intermediate between *Wolffia* proper and *Lemna*, but unfortunately it has never been known to produce flowers. Only one form has been credited to the United States, and that a variety of the Mexican *W. gladiata*, known only from the subtropical region of Florida. Mr. Thompson found it among the collections of Bush, made in the swampy region of southeastern Missouri, and has also discovered the Mexican *W. lingulata* in California, growing in an irrigation canal near Bakersfield. A careful account of these two forms is given, illustrated by three plates.—J. M. C.

A popular work on ecology.

UNDER the somewhat uncertain name of *The Great World's Farm*, a valuable and delightful work has been written by Selina Gaye.[2] The title was suggested by a passage in Professor Drummond's account of untrodden Africa, and refers to the way in which plants establish themselves and flourish unattended by man.

The subjects treated are the natural methods of soil formation, water and food elements in soil and air, the action of leaves and roots, flowers and their pollination, the distribution of seeds, friends and foes, the chances of life, changes due to man, and similar matters.

This enumeration of subjects does not, however, give any suggestion of the great diversity of topics and the extraordinary array of facts which have been brought together. The work is written from the most modern point of view, and although dealing with scientific matters, technical terms have been so skilfully avoided, that any well informed person may read the book with enjoyment, without possessing previous knowledge of the subject, or of its terminology. The volume also contains much about worms, insects, birds and other animals in connection with the account of vegetation. There are so few lapses from full scientific accuracy that they may be ignored by both reviewer and reader. Some of the historical statements may be taken with a grain of incredulity, such as the story of the Persians keeping pollen of the date for nineteen years during a civil war in order to secure a crop of fruit at its close, yet they are currently accepted and serve to accentuate general truths.

The book is well printed and the illustrations, mostly full page plates, are especially commendable. Altogether the work forms a compact volume of entertaining and instructive information, and can be heartily recommended to the lover of nature whether dilettante or earnest student.—J. C. A.

[2] GAYE, SELINA.—The great world's farm; some account of nature's crops and how they are grown. With a preface by G. S. Boulger. 8vo. pp. x + 365. Illustrated. London: Seeley & Co. 1893. Chicago: The Macmillan Co. $1.50.